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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/521,198

08/12/2005

Thomas Stromqvist

1533-1006

8646

466 7590 04/01/2009

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EXAMINER

SORRELL, ERON J

ART UNIT

PAPER NUMBER

2182

MAIL DATE

DELIVERY MODE

04/01/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/521,198	<b>Applicant(s)</b> STROMQVIST ET AL.	
	<b>Examiner</b> ERON J. SORRELL	<b>Art Unit</b> 2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 16-23 is/are rejected.
- 7) ☒ Claim(s) 14, 15 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/13/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 9-12, 16, 17-20, 23, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Wolff et al. (U.S. Patent No. 6,912,608 hereinafter "Wolff").

3. Referring to claims 1, 17, and 18, Wolf teaches a processing means for pipelined processing of data packets, said processing means comprising an input, an output and a pipeline having at least one processing stage, and wherein said pipeline is connected between the input and the output, said processing means further comprising:

said pipeline has at least one access point providing access to a device (see lines 28-37 of column 7);

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said device is connected to said access point via a request channel (see lines 47-65 of column 7);

said request channel comprises a transmit connection for transmitting requests to said device and a receive connection for receiving responses from said device (see lines 47-65 of column 7);

said access point comprises at least one FIFO store for storing data entering the access point (see item 304 in figure 3A);

said access point further comprises a response FIFO store connected to said device via said receive connection, said response FIFO store for storing responses received on the receive connection (see item 300 in figure 3A); and

said access point further comprises a synchronization mechanism adapted to synchronize the fetching of the first entry in said at least one FIFO store and the first entry in said response FIFO store (see lines 30-51 of column 1).

4. Referring to claim 19, Wolff teaches a method of pipelined processing of a data packet in a processing means comprising a

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pipeline, said pipeline comprising at least one processing stage, wherein said method comprising the following steps:

receiving, in an access point of said pipeline, at least part of said data packet (see lines 47-65 of column 7);

storing at least part of the data packet and any additional information associated with said data packet in at least one FIFO store in said access point (see lines 47-65 of column 7);

transmitting, from said access point, a request to a device on a transmit connection (see lines 47-65 of column 7);

receiving, in said access point, a response corresponding to said request, from said device on a receive connection (see lines 47-65 of column 7);

storing said response in a response FIFO store in said access point, said response FIFO store being connected to said device via said receive connection (see item 304 in figure 3A);

extracting the first response in said response FIFO store and the first entries in said at least one FIFO store, said first entries corresponding to the at least part of the data packet and said additional information; (see item 300 in figure 3A) and

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merging, said response into the data packet and/or into the additional information associated with said data packet (see figure 6).

5. Referring to claim 2, Wolff teaches the access point provides simultaneous access to more than one device via more than one request channels (see paragraph bridging columns 6 and 7).

6. Referring to claim 3, Wolff the receive connections of said request channels are connected to different response FIFO stores (see figure 18).

7. Referring to claim 4, Wolff teaches the access point further comprises means for merging relevant parts of said responses into said data packet and/or into said additional information (see figure 6).

8. Referring to claim 9, Wolff teaches said synchronization mechanism is completion driven conditional logic adapted to

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determine whether all relevant response FIFO stores have data in the first entry (see lines 30-51 of column 1).

9. Referring to claim 10, Wolff teaches said transmit connection is connected to an access unit of said access point, said access unit being adapted to receiving data processing information associated with said data packet, to using said data processing information in creating a request and to transmitting said request to said device on said transmit connection (see paragraph bridging columns 6 and 7).

10. Referring to claim 11, Wolff teaches said data processing information comprises information related to the handling of a response received from said device; and said access unit comprises an access unit FIFO store for storing said information related to the handling of a response (see figure 3A).

11. Referring to claim 12, Wolff teaches said transmit connection is connected to an access unit of said access point, said access unit being adapted to receiving data processing

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information associated with said data packet, to using said data processing information in creating a request and to transmitting said request to said device on said transmit connection; and each transmit connection is connected to an access unit (see figure 3A).

12. Referring to claim 16, Wolff teaches said processing means comprises at least one switch being connected between at least one transmit connection and to at least two devices, said switch being configurable to provide access to any one of said devices via said at least one transmit connection (see item 171 in figure 1).

13. Referring to claim 20, Wolff teaches more than one request is transmitted simultaneously from said access point on more than one transmit connection, each transmit connection being connected to a different device (see paragraph bridging columns 6 and 7).



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14. Referring to claim 23, Wolff teaches extracting data processing information associated with said data packet, prior to said step of transmitting, said step of extracting data processing information being performed by use of an access point reference in additional information; and wherein said request is prepared according to said data processing information (see paragraph bridging columns 6 and 7); and said step of merging is performed according to said data processing information (see figure 4).

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. Claims 5-8,13,21, and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (U.S. Patent No. 4,052,670 hereinafter Watanabe).

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17. Referring to claims 5-8,21, and 22 Wolff teaches the method and system of claims 1, and 19 as shown above but fails to teach the synchronization mechanism is a fixed delay mechanism adapted to initiate a fixed time delay upon entry of at least part of a data packet into the access point, wherein said fixed time delay is equal to or longer than the time required to process the most time consuming operation provided to access point by any of the devices, wherein said fixed time delay mechanism is adapted to transmitting a triggering signal when the initiated fixed time delay has elapsed, wherein said fixed time delay mechanism comprises a shift register.

Watanabe teaches a synchronization mechanism is a fixed delay mechanism adapted to initiate a fixed time delay upon entry of at least part of a data packet into the access point, wherein said fixed time delay is equal to or longer than the time required to process the most time consuming operation provided to access point by any of the devices, wherein said fixed time delay mechanism is adapted to transmitting a triggering signal when the initiated fixed time delay has elapsed, wherein said fixed time delay mechanism comprises a shift register (see lines 21-53 of column 4).

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It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the teachings of Wolff with the above teachings of Watanabe in order to ensure correct reception of the data.

18. Referring to claim 13, Watanabe teaches transmit connection is connected to an access unit of said access point, said access unit being adapted to receiving data processing information associated with said data packet, to using said data processing information in creating a request and to transmitting said request to said device on said transmit connection; and said fixed time delay mechanism is adapted to sending said triggering signal at least to said access unit, said access unit being adapted to fetching a response in said response FIFO store(s) responsive to said triggering signal (see figure 2).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the teachings of Wolff with the above teachings of Watanabe for the same reasons as mentioned above.

***Allowable Subject Matter***

19. Claims 14,15,24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following reference is cited to further show the state of the art as it pertains to the applicant's invention:

U.S. Patent No. 6,463,472 to Van Loo teaches a pipeline packet processing system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERON J. SORRELL whose telephone number is (571)272-4160. The examiner can normally be reached on Monday-Friday 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 571-272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eron J Sorrell/  
Primary Examiner, Art Unit 2182  
March 29, 2009